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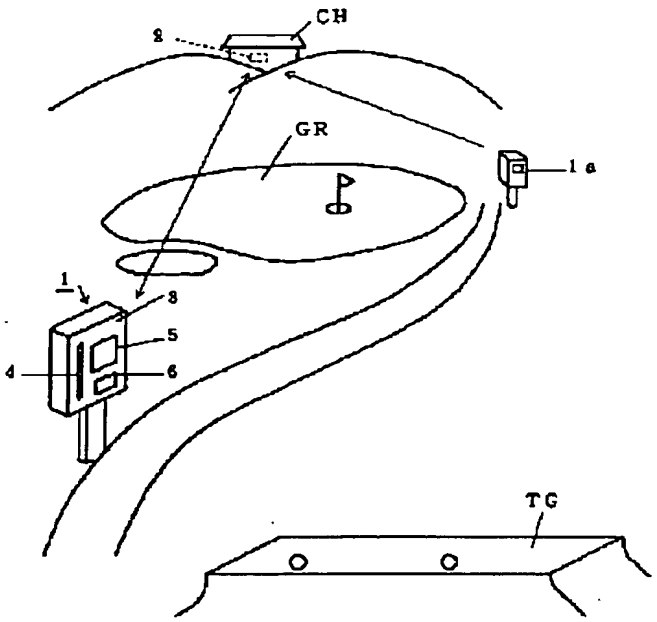
TITLE : SCORE MANAGING SYSTEM FOR GOLF LINKS



ABSTRACT : PURPOSE: To make score information of other groups available at set positions of terminals while simplifying a score inputting operation from the terminals by eliminating the need for inputting any hole number of at each hole.

CONSTITUTION: A terminal 1 is set at each hole to enable communication with a center device 2. Each terminal 1 is provided with a keyboard 6 and a display section 5 and also has the number of the hole involved stored. When a score of each player is inputted by keying from the terminal 1, key input data and the hole number are transmitted to the center device 2 to be stored. When a transfer demand is sent to the center device 2 by a key operation, the center device 2 searches score information of other groups to be sent to the terminal which issues the demand. The data received with the terminal 1 is shown on a display section 5.

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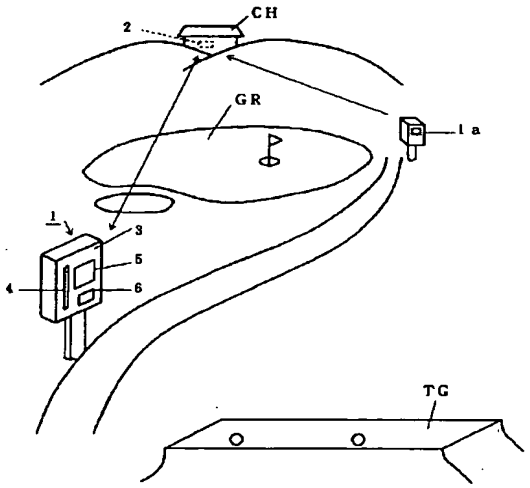
(54)【発明の名称】　ゴルフ場におけるスコア管理システム

(57)【要約】
【目的】各ホール毎にホールの番号を入力する必要をなくして端末装置からのスコア入力操作を簡易化すると共に、各端末装置の設置位置で他のグループのスコア情報を入手可能とする。
【構成】各ホール毎にセンタ装置２と交信が可能な端末装置１が設置してある。各端末装置１はキーボード６や表示部５を備え、また各端末装置１は該当するホールの番号を記憶している。端末装置１より各プレーヤのスコアがキー入力されると、そのキー入力データとホール番号とがセンタ装置２へ送信されて記憶される。またキー操作によりセンタ装置２へ転送要求を行うと、センタ装置２は他のグループのスコア情報を検索して要求先の端末装置１へ送る。端末装置１で受信した受信データは表示部５に表示される。



3

前記受信手段により受信されたスコアをプレーヤ毎に蓄積して記憶するための記憶手段と、
前記記憶手段に記憶されたプレーヤ毎のスコアを集計する集計手段と、
前記集計手段による集計結果を出力する出力手段と、
各端末装置からの転送要求に応答して該当するグループのスコア情報を検索する検索手段と、
前記検索手段により検索されたスコア情報を転送要求先の端末装置へ送信する送信手段とを備えて成るゴルフ場におけるスコア管理システム。

【発明の詳細な説明】

【０００１】

【産業上の利用分野】この発明は、複数のプレーヤのスコアを集中して管理するためのゴルフ場におけるスコア管理システムに関する。

【０００２】

【従来の技術】現在、ゴルフ場でプレイを行う場合、各プレーヤはスコアカードへ各ホール毎のスコアを書き込んでゆく必要がある。近年、ゴルフコンペと称される競技が頻繁に催られているが、各プレーヤの最終成績を集計するには、主催者が各プレーヤよりスコアカードを回収した上で手作業によりスコアの集計を行い、順位を決定している。

【０００３】特に多数人が参加したゴルフコンペの場合、この種の集計作業は非常な手数と時間とがかかり、主催者の作業負担は大変なものである。そこで先般、各グループに小型の端末装置を携行させ、またクラブハウスには各端末装置と交信が可能なセンタ装置を設置して、各端末装置より各ホール毎に各プレーヤのスコアをセンタ装置へ伝送させ、一方、センタ装置では受信した各プレーヤのスコアを自動集計するようなスコア管理システムが提案された。

【０００４】

【発明が解決しようとする課題】しかしながらこの種のスコア管理システムでは、各ホール終了後に各プレーヤのスコアを端末装置より入力するに際し、何番ホールのスコアであるかをその都度入力する必要があり、入力操作が煩雑である。

【０００５】しかも端末装置は、センタ装置へスコアを伝送するためだけのものであって、機能が限定され、プレーヤへのサービスに欠けるという問題がある。特にゴルフコンペでは、各プレーヤは他のグループのスコアに関心があるが、従来のゴルフ管理システムでは、他のグループのスコア情報を入手できず、プレーヤの要望を満たすことが困難であった。

【０００６】この発明は、上記問題に着目してなされたもので、各ホール毎に各プレーヤのスコアを入力するのに、ホールの番号をその都度入力する必要のないゴルフ場におけるスコア管理システムを提供することを目的とする。

4

【０００７】またこの発明は、各ホールの適所で、他のグループのスコア情報を容易に入手することが可能なゴルフ場におけるスコア管理システムを提供することを目的とする。

【０００８】

【課題を解決するための手段】請求項１にかかる発明は、各ホール毎にグリーン近傍からつぎのホールのティーグランドに至る任意の位置に設置される端末装置と、各端末装置と交信可能なセンタ装置とでゴルフ場におけるスコア管理システムが構成される。各端末装置は、設置されたホールの番号を記憶する記憶手段と、各プレーヤに固有な個人認証コードと各プレーヤのスコアとを入力するための入力手段と、前記入力手段より入力された各プレーヤの個人認証コードおよびスコアと前記記憶手段に記憶されたホールの番号とをセンタ装置へ送信する送信手段とを備えている。一方、前記センタ装置は、各端末装置からの送信データを受信する受信手段と、前記受信手段により受信されたスコアをプレーヤ毎に蓄積して記憶するための記憶手段と、前記記憶手段に記憶されたプレーヤ毎のスコアを集計する集計手段と、前記集計手段による集計結果を出力する出力手段とを備えている。

【０００９】請求項２の発明にかかるスコア管理システムについては、各端末装置は、設置されたホールの番号を記憶する記憶手段と、各プレーヤに固有な個人認証コードと各プレーヤのスコアとを入力するための入力手段と、他のグループのスコア情報の転送をセンタ装置へ要求するための転送要求手段と、前記入力手段より入力された各プレーヤの個人認証コードおよびスコアと前記転送要求手段からの転送要求とを選択的に前記記憶手段に記憶されたホールの番号とともにセンタ装置へ送信する送信手段と、前記センタ装置からの転送情報を受信する受信手段と、前記受信手段により受信した他のグループのスコア情報を出力する出力手段とを備えている。一方、前記センタ装置は、各端末装置からの送信データおよび転送要求を受信する受信手段と、前記受信手段により受信されたスコアをプレーヤ毎に蓄積して記憶するための記憶手段と、前記記憶手段に記憶されたプレーヤ毎のスコアを集計する集計手段と、前記集計手段による集計結果を出力する出力手段と、各端末装置からの転送要求に応答して該当するグループのスコア情報を検索する検索手段と、前記検索手段により検索されたスコア情報を転送要求先の端末装置へ送信する送信手段とを備えている。

【００１０】請求項３にかかる発明は、各グループが携行する移動通信装置と、各ホール毎にグリーン近傍からつぎのホールのティーグランドに至る任意の位置に設置される端末装置と、各端末装置と交信可能なセンタ装置とでゴルフ場におけるスコア管理システムが構成される。前記移動通信装置は、各プレーヤに固有な個人認証

7

【００２０】図３は、上記スコア入力カード７の裏面を示すもので、所定の情報が磁気的に記録される帯状の情報記録部８が長さ方向に沿って設けられている。この情報記録部８には、前記した団体コードａ，グループコードｂ，プレーヤ番号ｃなどの各情報が記録されている。

【００２１】図４は、このスコア管理システムの全体構成と、センタ装置２および各端末装置１の回路構成とが併せて示してある。各端末装置１は、マイクロプロセッサを含み、制御主体であるＣＰＵ９に対し、バスを介してプログラムやホールの番号などの固定データが格納されるＲＯＭ１０やデータの読み書きに供されるＲＡＭ１１が接続されている。

【００２２】前記ＣＰＵ９は、ＲＯＭ１０のプログラムを解読実行し、ＲＡＭ１１に対するデータの読み書きを行いつつ各入出力装置の入出力動作を入出力ポートを介して一連に制御する。前記入出力装置として、前記ＣＰＵ９には表示部５，キーボード６，カードリーダ１２，伝送部１３などが接続される。

【００２３】前記表示部５は、液晶やＣＲＴなどの表示装置をもって構成され、その画面上にはキー入力データや後記するゴルフコンペ時の他のグループのスコア情報などが表示される。キーボード６は、各プレーヤのスコアなどを入力するためのもので、図５にキーボード６の構成が具体的に示してある。

【００２４】このキーボード６には、「０」～「９」の置数キーより成るテンキー１４の他に、訂正キー１５，矢印キー１６，１７，入力キー１８，設定キー１９，終了キー２０，転送要求キー２１，交信ランプ２２などが配置されている。

【００２５】前記訂正キー１５はキー入力データを訂正する際に押操作される。矢印キー１６，１７は前記表示部５の表示画面をスクロールしたり、カーソルを移動したりするのに用いられる。入力キー１８はスコアを入力する際に押操作され、設定キー１９は置数データの設定に用いられる。終了キー２０はスコアなどの入力終了時に押操作される。転送要求キー２１は他のグループのスコア情報の転送をセンタ装置２へ要求するときに押操作される。交信ランプ２２はセンタ装置２との交信時に点灯動作する。

【００２６】図４に戻って、カードリーダ１２は前記カード挿入溝４の内部に設けられ、スコア入力カード７の情報記録部８より記録情報を読み取る。伝送部１３はセンタ装置２へのスコア情報の送信や転送要求の出力、さらにはセンタ装置２からの他のグループのスコア情報の受信を行う部分である。

【００２７】図６は、前記ＲＡＭ１１の記憶内容を示すメモリマップであり、カード読取情報格納領域Ｍ１，キー入力データ格納領域Ｍ２，送信データ編集領域Ｍ３，受信データ格納領域Ｍ４，フラグ設定領域Ｍ５，Ｍ６などを有する。

8

【００２８】前記カード読取情報格納領域Ｍ１にはスコア入力カード７の情報記録部８より読み取られた情報が、またキー入力データ格納領域Ｍ２にはキーボード１２よりキー入力された置数データが、それぞれ格納される。なお図中、バッファ３０はキー入力データを一時記憶するためのものである。

【００２９】送信データ編集領域Ｍ３はキー入力データとＲＯＭ１０に記憶されたホール番号とを用いてセンタ装置２へ送信するための送信電文を編集するのに用いられる。受信データ格納領域Ｍ４はセンタ装置２より送信されてきた他のグループのスコア情報を格納する。フラグ設定領域Ｍ５，Ｍ６はフラグＦ１，Ｆ２を設定するための領域であって、各フラグＦ１，Ｆ２の意義については後述する。

【００３０】センタ装置２も、制御・演算の主体であるＣＰＵ２３に、ＲＯＭ２４，ＲＡＭ２５および，各入出力装置が接続されたものであって、ＣＰＵ２３は、ＲＯＭ２４のプログラムを解読実行し、ＲＡＭ２５に対するデータの読み書きを行いつつ各入出力装置の入出力動作を入出力ポートを介して一連に制御する。前記入出力装置として、前記ＣＰＵ２３にはキーボード２６，表示部２７，印字部２８，伝送部２９などが接続される。

【００３１】前記キーボード２６は各種のデータを入力するためのもの、また表示部２７や印字部２８はスコアの集計結果などを表示し、また印字する。伝送部２９は各端末装置１よりスコア情報や転送要求を受信したり、転送要求先の端末装置２へ他のグループのスコア情報を送信したりするためのものである。

【００３２】図７～図９は、各端末装置１のＣＰＵ９による制御手順をステップ１（図中「ＳＴ１」で示す）～ステップ３１で示す。図７のステップ１において、ＣＰＵ９はカード挿入溝４へスコア入力カード７が挿入されたか否かを判定しており、もしステップ１の「カード入力ありか？」の判定が「ＹＥＳ」であれば、ステップ２でセンタ装置２と交信中か否かをフラグＦ１の内容により判定する。

【００３３】もし交信中でなければ、ステップ２の「Ｆ１＝１？」の判定が「ＮＯ」であり、つぎのステップ３でＣＰＵ９はカードリーダ１２により読み取られたカード読取情報をＲＡＭ１１のカード読取情報格納領域Ｍ１に格納する。

【００３４】つぎにＣＰＵ９はキーボード６のキー操作の有無を判定しており、その判定が「ＹＥＳ」であれば、続くステップ５～９でいずれのキーが押されたかを判定する。もし入力キー１８が押された場合、ステップ５の判定が「ＹＥＳ」となり、つぎのステップ１０ですでに入力キー１８が押操作済みか否かをフラグＦ２の内容により判断する。この場合、その判定は「ＮＯ」であるから、ステップ１１へ進み、ＣＰＵ９はＲＡＭ１１中のカード読取情報を参照して表示部５に図１０に示すフ

11

書き込む。この段階では、各グループの各プレーヤについての集計は全て完了しているから、ここでの集計はスコアのグロス値の小さい方から成績の順位を決定するためのもので、その集計手順を終えると、つぎのステップ１０でＣＰＵ２３は集計結果を表示部２７に表示させ、また印字部２８に印字させる。

【００４７】一方、受信データが転送要求であるとき、ステップ４の判定が「ＹＥＳ」となり、ＣＰＵ２３はＲＡＭ２５のスコア表記憶領域ｍ１を検索してその団体に属する全てのグループの各プレーヤのスコア経過を読み出し、送信データ編集領域ｍ２を利用して図１２に示すフォーマットの送信電文を編集した後、伝送部２９よりその送信電文を転送要求先の端末装置１へ送信する（ステップ１１，１２）。

【００４８】なお上記実施例の各端末装置１は各プレーヤのスコアを入力できかつ他のグループのスコア情報の転送を要求して表示できる機能を有しているが、図１に示すように、そのホールのグリーンＧＲの近傍などにスコア入力機能のみをもつ端末装置１ａを設置し、つぎのホールのティーグランドＴＧの近傍などにスコア入力機能および転送要求機能を併せてもつ上記実施例の端末装置１またはスコア情報の転送要求機能のみをもつ端末装置（図示せず）を設置するようにしてもよい。

【００４９】図１６は、この発明の他の実施例にかかるスコア管理システムの概略構成を示す。同図中、１は例えばつぎのティーグランドの近傍に設置された端末装置、２はクラブハウスＣＨ内に設けられたセンタ装置であり、そのグループ（組）のゴルフカート３３には前記端末装置１と交信可能な移動通信装置３４が搭載されている。

【００５０】前記端末装置１の前面の操作面３には、前記した第１実施例と同様の構成、すなわちカード挿入溝４，表示部５，キーボード６が設けられている。また前記移動通信装置３４は、図１７に示すように上面を操作面３５となし、この操作面３５にも前記端末装置１と同様、カード挿入溝３６，キーボード３７および，表示部３８が設けてある。

【００５１】前記端末装置１は、各プレーヤについてのスコア入力操作と他のグループのスコア情報の転送要求操作とが可能であり、しかも受信データを表示することが可能となっている。一方、移動通信装置３４の方は各プレーヤについてのスコア入力操作と他のグループのスコア情報の転送要求操作とが可能となっている。なお前記端末装置１は、必ずしもスコア情報の転送要求操作が可能であるよう構成する必要はない。

【００５２】前記移動通信装置３４におけるキーボード３７には、第１実施例と同様の構成、すなわち「０」～「９」の置数キーより成るテンキー１４，訂正キー１５，矢印キー１６，１７，入力キー１８，設定キー１９，終了キー２０，転送要求キー２１が設けられる他、

12

警報ランプ３６が設けられている。この警報ランプ３９は、移動通信装置３４が端末装置１と交信することが可能な領域に入ったときに点灯して、ゴルフスコアの入力操作を促すためのものである。

【００５３】図１８は、第２実施例のスコア管理システムの全体構成と、センタ装置２，各端末装置１および，移動通信装置３４の各回路構成とが併せて示してある。各端末装置１およびセンタ装置２の回路構成は第１実施例と同様であり、ここでは対応する構成に同一符号を付することで説明を省略する。なお端末装置１の伝送部１３はセンタ装置２と長距離隔てた交信が可能である他、移動通信装置３４とは周辺の狭い範囲内で交信できるようになっている。

【００５４】前記移動通信装置３４は、マイクロプロセッサを含み、制御主体であるＣＰＵ４０に対し、バスを介してプログラムや固定データが格納されるＲＯＭ４１やデータの読み書きに供されるＲＡＭ４２が接続されている。

【００５５】前記ＣＰＵ４０は、ＲＯＭ４１のプログラムを解読実行し、ＲＡＭ４２に対するデータの読み書きを行いつつ各入出力装置の入出力動作を入出力ポートを介して一連に制御する。前記入出力装置として、前記ＣＰＵ４０には表示部３８，キーボード３６，カードリーダ４３，伝送部４４，発信部４５などが接続される。

【００５６】前記表示部３８は、液晶表示装置をもって構成され、その画面上にはキー入力データが表示される。キーボード３６は、各プレーヤのスコアなどを入力するためのもので、キーボード３６の構成は前記したとおりである。カードリーダ４３は前記カード挿入溝３６の内部に配備され、スコア入力カード７の情報記録部８より記録情報を読み取る。伝送部４４は各端末装置１へスコア情報や転送要求を送信し、発信部４５はその周辺の限られた範囲へ探索信号を常時出力する。

【００５７】図１９は、前記移動通信装置３４のＣＰＵ４０による制御手順をステップ１～ステップ２６で示す。まずＣＰＵ４０は、ステップ１でそのホールの端末装置１より応答信号を受信したか否かを判定する。この応答信号は、端末装置１が移動通信装置３４より探索信号を受信したときに一定時間継続して出力されるもので、ステップ１の判定が「ＹＥＳ」のとき、つぎにＣＰＵ４０はキーボード３７の警報ランプ２９が点灯しているか否かを判定し、もしその判定が「ＮＯ」であれば、ステップ３で警報ランプ２９を点灯させ、もしその判定が「ＹＥＳ」であれば、ステップ３をスキップして、つぎのステップ４でカード記録情報の入力に待機する。

【００５８】もしステップ１の「応答信号受信か？」の判定が「ＮＯ」であれば、ステップ５へ進んで警報ランプ２９が点灯しているか否かを判定し、もしその判定が「ＮＯ」であれば、ステップ１へ戻って応答信号の受信に待機する。もしステップ５の判定が「ＹＥＳ」のと

15

かの情報を入力する必要がなく、入力操作を簡略化できる。

【００７１】また請求項２または請求項４の発明では、他のグループのスコア情報の転送をセンタ装置へ要求し、一方、センタ装置は要求先の端末装置へそのスコア情報を送信して、その内容を端末装置の出力部に出力させるようにしたから、端末装置の各設置位置において、他のグループのスコア情報を容易に確認できる。

【００７２】さらに請求項３の発明では、端末装置を各ホール毎にグリーン近傍からつぎのホールのティーグランドに至る任意の位置に設置し、また各グループは各端末装置と交信可能な移動通信装置を携行するようにしたから、移動通信装置が端末装置の交信可能領域に入ったとき、移動通信装置より端末装置を介してセンタ装置へスコアを伝送でき、端末装置の設置場所まで移動せずに手元でスコアの入力操作が可能である。

【００７３】さらにまた請求項４の発明では、移動通信装置において他のグループのスコア情報の転送要求を行えるようにしたから、端末装置の設置場所まで移動せずに手元でスコアの入力操作のみならず、スコア情報の転送要求操作が可能であるという、顕著な効果を奏する。

【図面の簡単な説明】

【図１】この発明の一実施例にかかるスコア管理システムの概略構成を示す説明図である。

【図２】図１の実施例に用いられるスコア入力カードの表面の外観を示す説明図である。

【図３】スコア入力カードの裏面の外観を示す説明図である。

【図４】スコア管理システムの全体構成とセンタ装置および各端末装置の回路構成とを示すブロック図である。

【図５】キーボードの構成例を示す説明図である。

【図６】端末装置におけるＲＡＭの記憶内容を示すメモリマップである。

【図７】端末装置における制御手順を示すフローチャートである。

【図８】端末装置における制御手順を示すフローチャートである。

【図９】端末装置における制御手順を示すフローチャートである。

16

【図１０】表示部に表示された入力データ表を示す説明図である。

【図１１】センタ装置への送信電文のフォーマットを示す説明図である。

【図１２】端末装置への送信電文のフォーマットを示す説明図である。

【図１３】端末装置の表示部に表示されたプレイ経過情報の具体例を示す説明図である。

【図１４】センタ装置における制御手順を示すフローチャートである。

【図１５】センタ装置におけるＲＡＭの記憶内容を示すメモリマップである。

【図１６】この発明の第２実施例にかかるスコア管理システムの概略構成を示す説明図である。

【図１７】第２実施例における移動通信装置の外観を示す斜面図である。

【図１８】第２実施例にかかるスコア管理システムの全体構成と、センタ装置，各端末装置および，移動通信装置の回路構成とを示すブロック図である。

【図１９】移動通信装置における制御手順を示すフローチャートである。

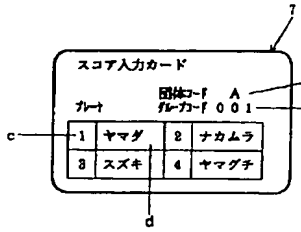
【図２０】移動通信装置における制御手順を示すフローチャートである。

【図２１】端末装置における制御手順を示すフローチャートである。

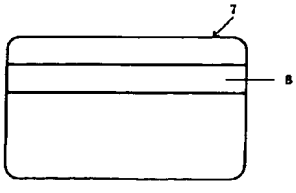
【符号の説明】

１　端末装置
２　センタ装置
４，３６　カード挿入溝
５，２７，３８　表示部
６，３７　キーボード
９，２３，４０　ＣＰＵ
１０，２４，４１　ＲＯＭ
１１，２５，４２　ＲＡＭ
１２，４３　カードリーダ
１３，２９，４４　伝送部
２８　印字部

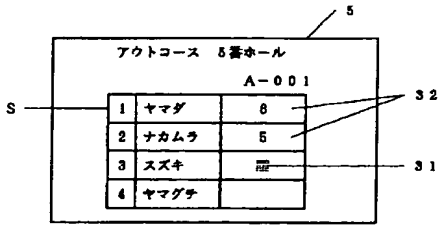
【図２】



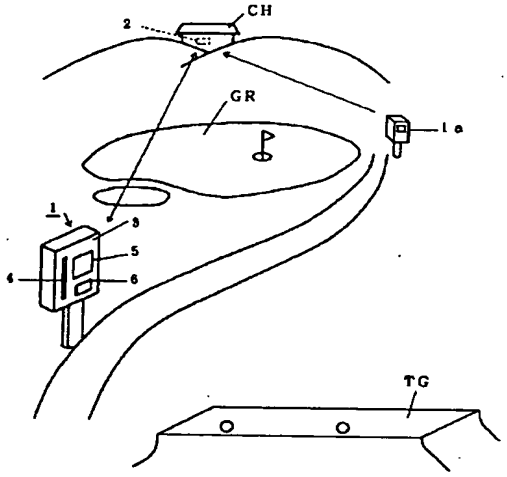
【図３】



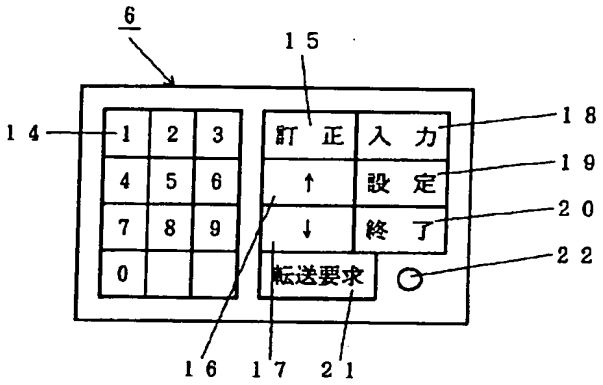
【図１０】



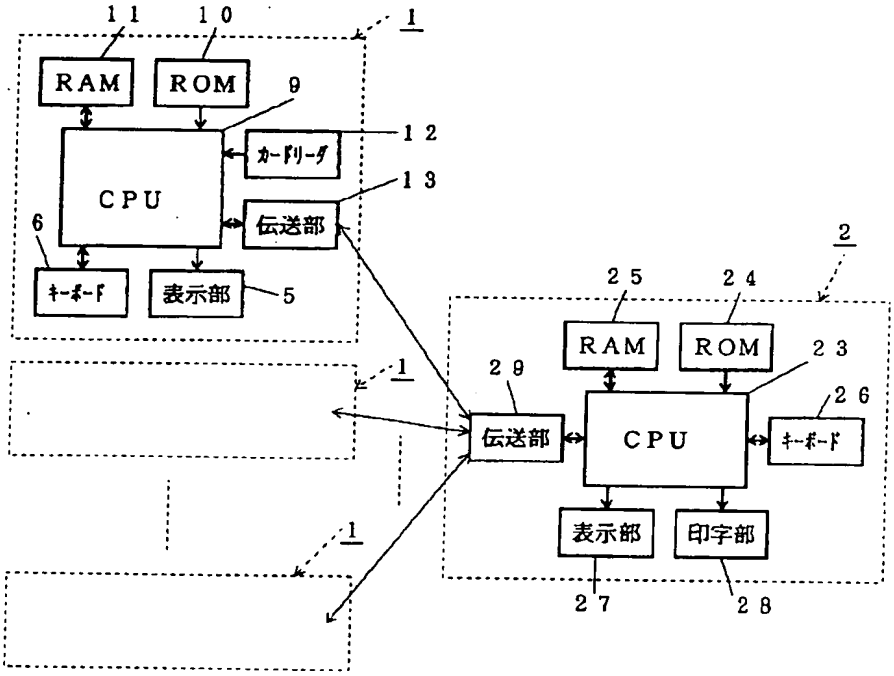
【図１】



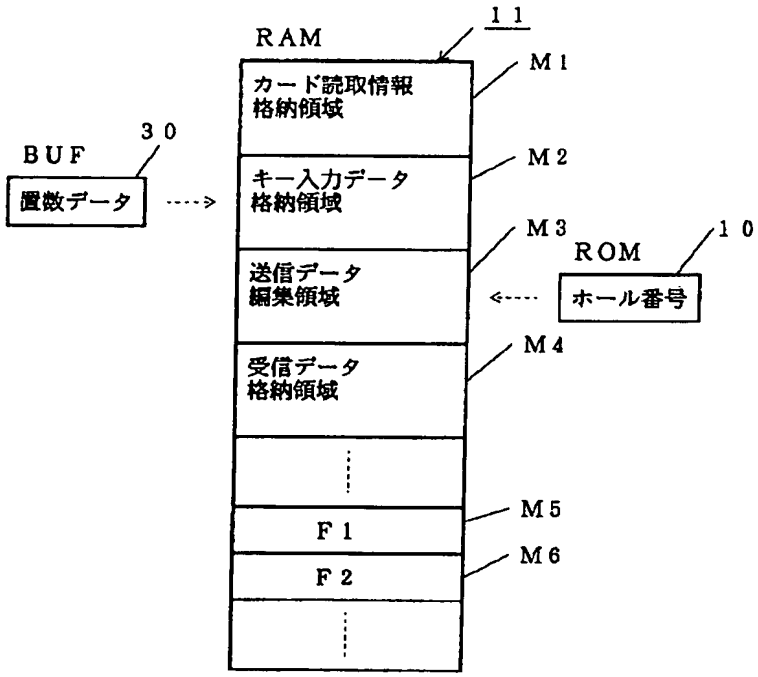
【図５】



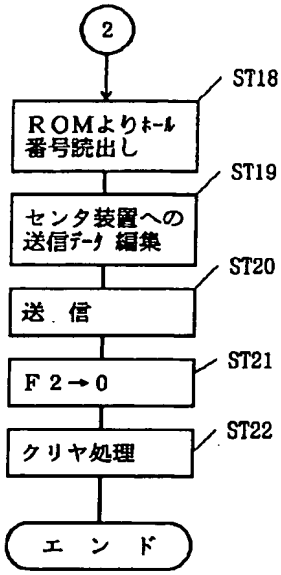
【図４】



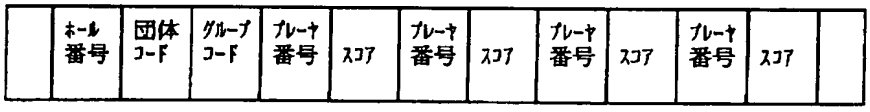
【図６】



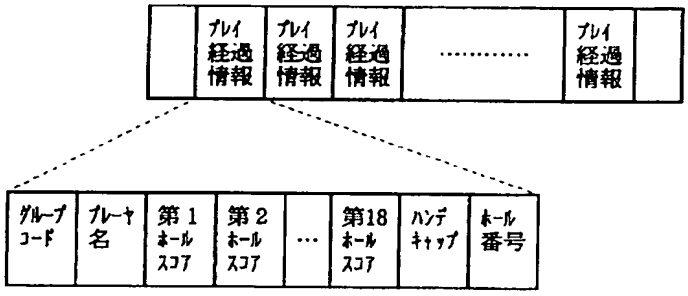
【図８】



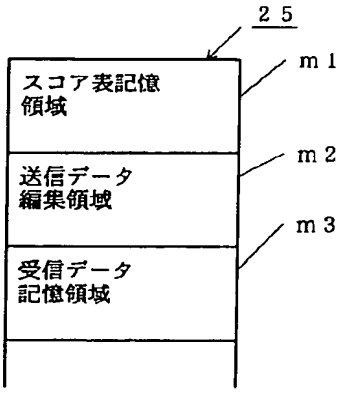
【図１１】



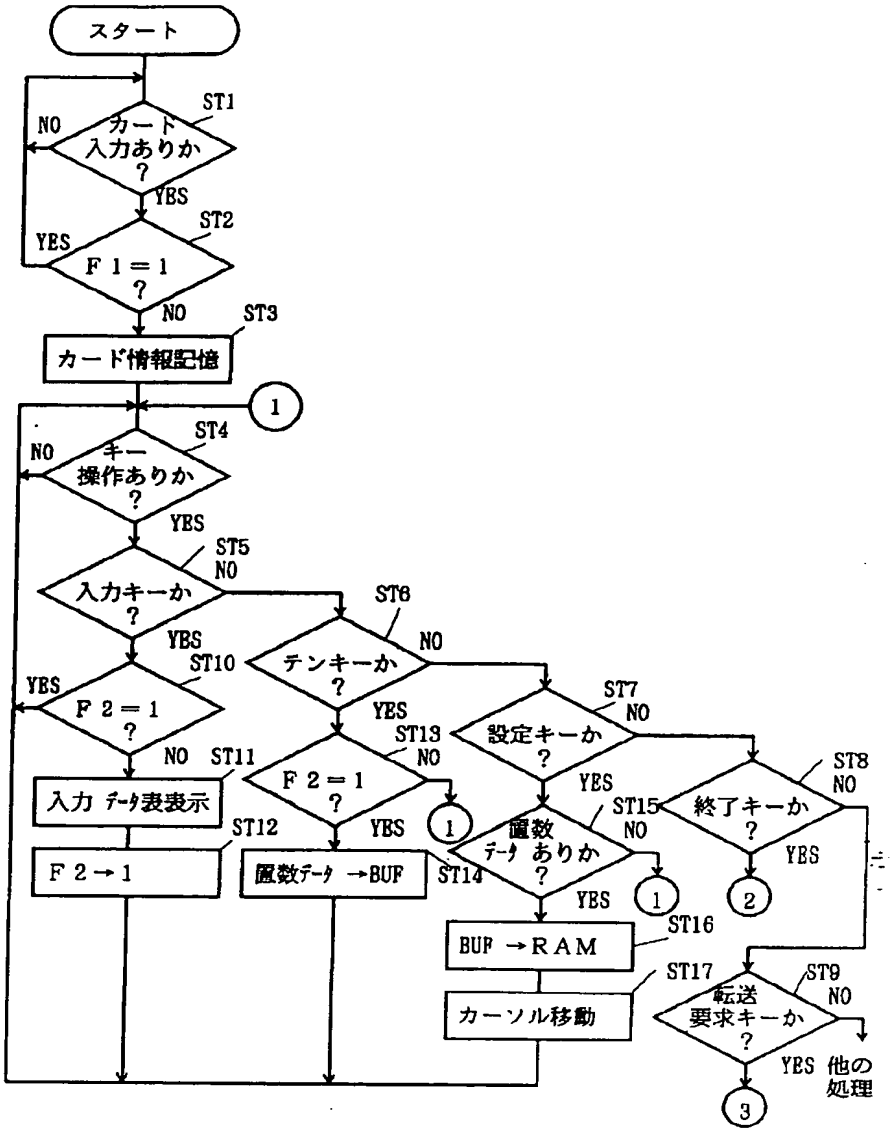
【図１２】



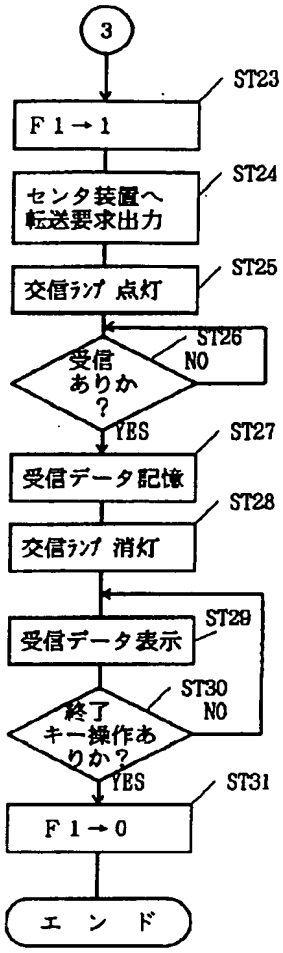
【図１５】



【図７】


スタート
ST1
NO
カード入力ありか？
YES
ST2
YES
F 1 = 1 ？
NO
ST3
カード情報記憶
1
ST4
NO
キー操作ありか？
YES
ST5
NO
入力キーか？
YES
ST10
YES
F 2 = 1 ？
NO
ST11
入力 データ表表示
ST12
F 2 → 1
ST6
NO
テンキーか？
YES
ST13
NO
F 2 = 1 ？
YES
1
ST14
置数データ →BUF
ST7
NO
設定キーか？
YES
ST15
NO
置数データ ありか？
YES
1
BUF →RAM
ST16
ST17
カーソル移動
ST8
NO
終了キーか？
YES
2
ST9
NO
転送要求キーか？
YES
他の処理
3

【図９】

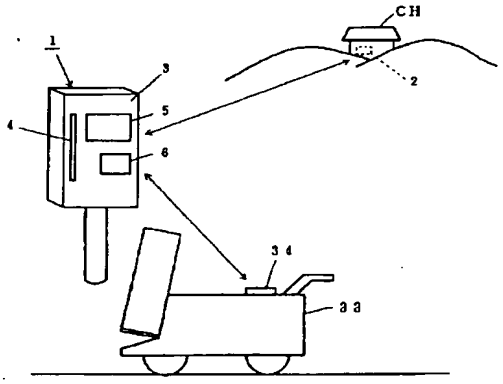


【図１３】

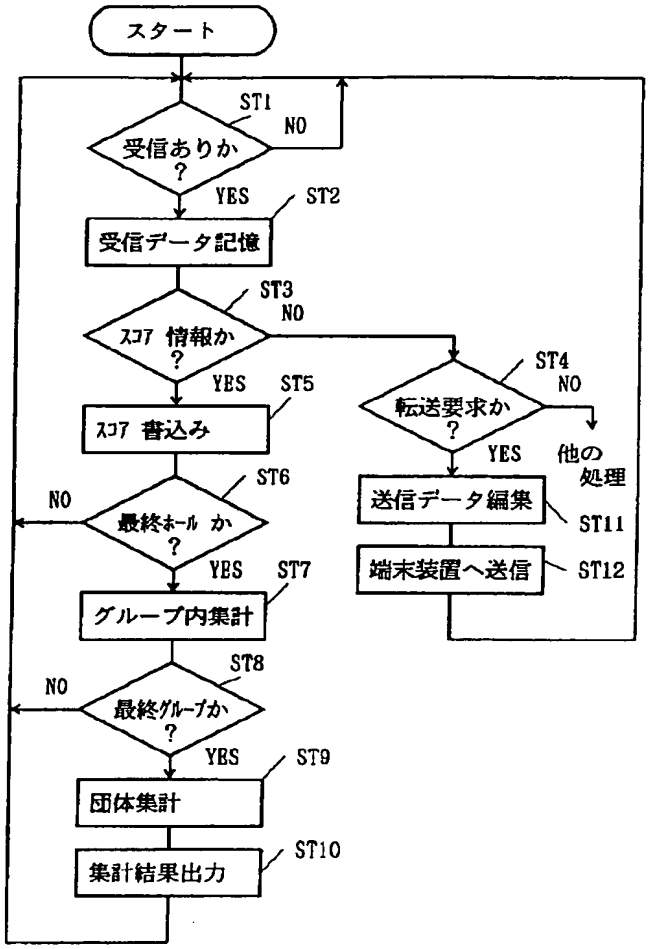
5

ｸﾞﾙｰﾌﾟ	ﾌﾟﾚｰﾔ	1	2	3	4	5	……	18	HD	ﾎｰﾙ
001	ﾔﾏﾀﾞ	5	8	4	6	6	……		２０	5
	ﾅｶﾑﾗ	4	5	3	6	5	……		１７	5
	ｽｽﾞｷ	7	7	4	7	5	……		２８	5
	ﾔﾏｸﾞﾁ	7	6	6	5	6	……		３０	5
002	……	5	5	3	5		……		１２	4
	……	6	6	4	6		……		２０	4
	……	5	5	4	5		……		１８	4
	……	4	5	3	5		……		１０	4
003	……	6	5	2			……		１８	3
	……	6	6	4			……		２１	3
	……	7	5	5			……		２５	3
	……	6	6	5			……		２５	3

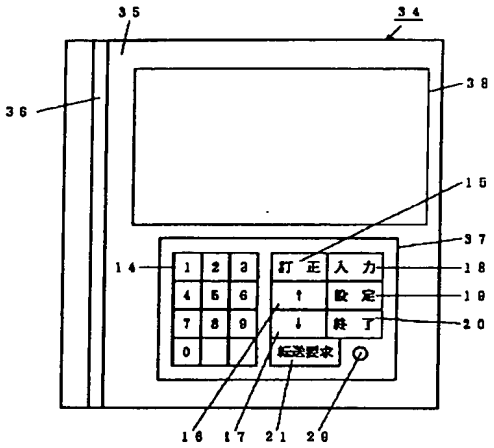
【図１６】



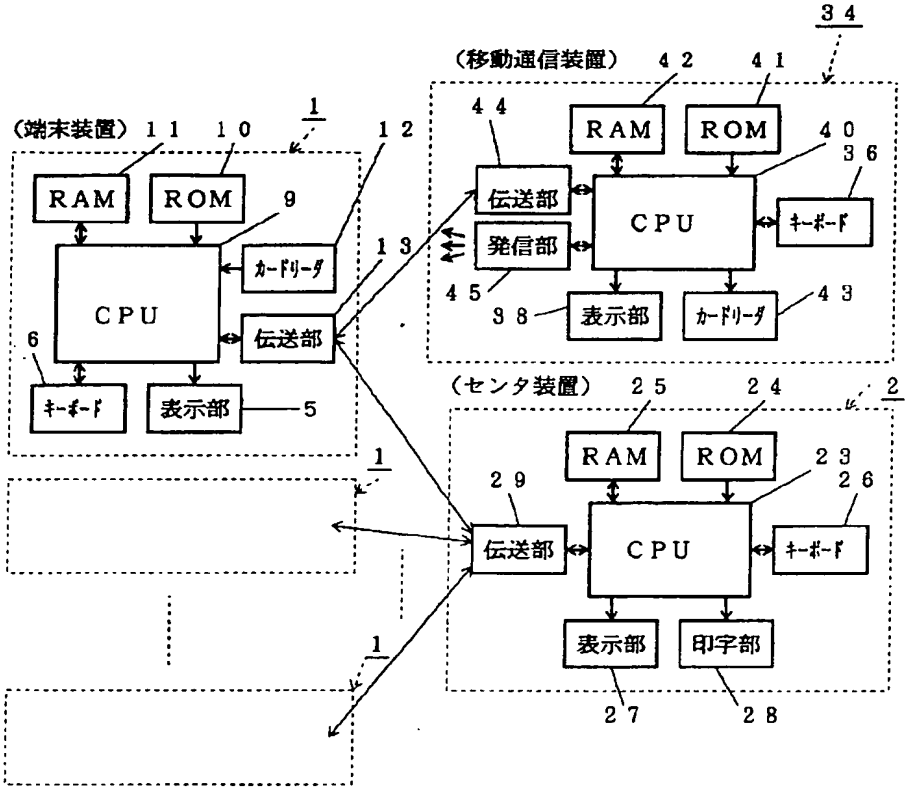
【図14】


スタート
ST1
受信ありか？
NO
YES
ST2
受信データ記憶
ST3
ｽｺｱ 情報か？
NO
YES
ST5
ｽｺｱ 書込み
ST4
転送要求か？
NO
YES
他の処理
送信データ編集
ST11
端末装置へ送信
ST12
ST6
最終ﾎｰﾙ か？
NO
YES
ST7
グループ内集計
ST8
最終ｸﾞﾙｰﾌﾟか？
NO
YES
ST9
団体集計
ST10
集計結果出力

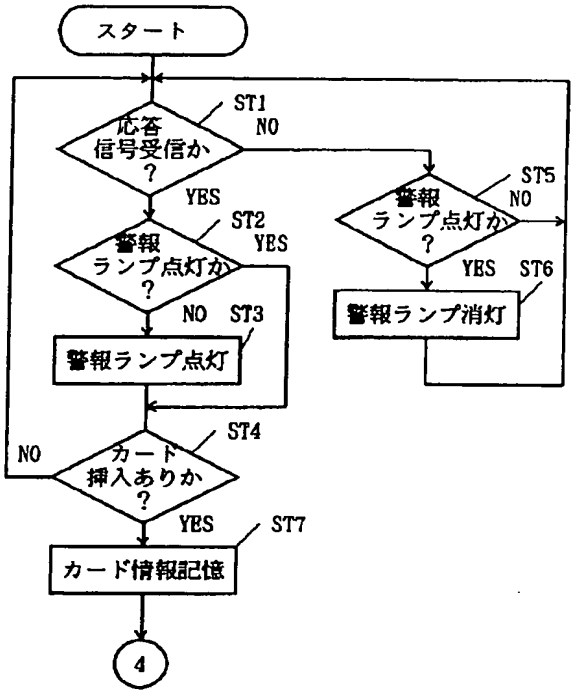
【図１７】


35
34
36
38
15
37
14
1 2 3
4 5 6
7 8 9
0
訂正
入力
↑
設定
↓
終了
転送要求
18
19
20
16
17
21
20

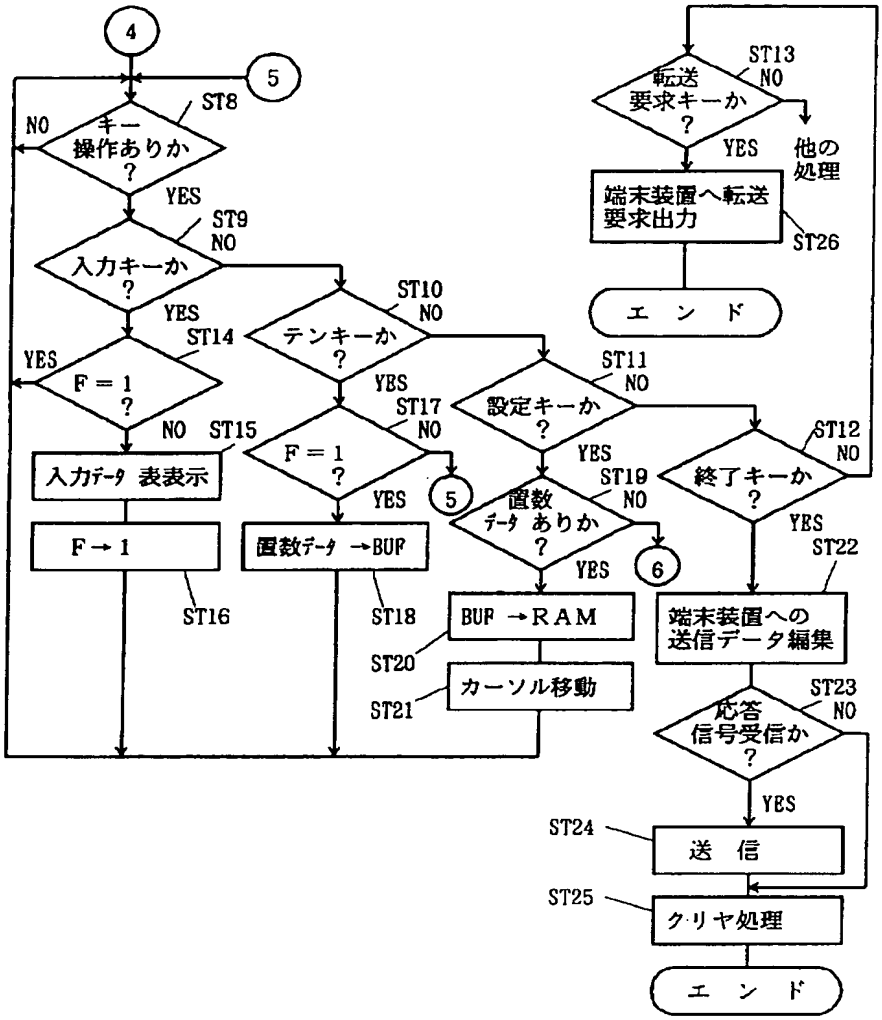
【図１８】


34
（移動通信装置）
42
41
44
RAM
ROM
40
36
伝送部
CPU
キーボード
発信部
45
38
表示部
カードリーダ
43
（端末装置）11
10
1
12
RAM
ROM
9
カードリーダ
13
CPU
伝送部
6
キーボード
表示部
5
（センタ装置）
25
24
2
RAM
ROM
23
29
26
伝送部
CPU
キーボード
表示部
印字部
27
28

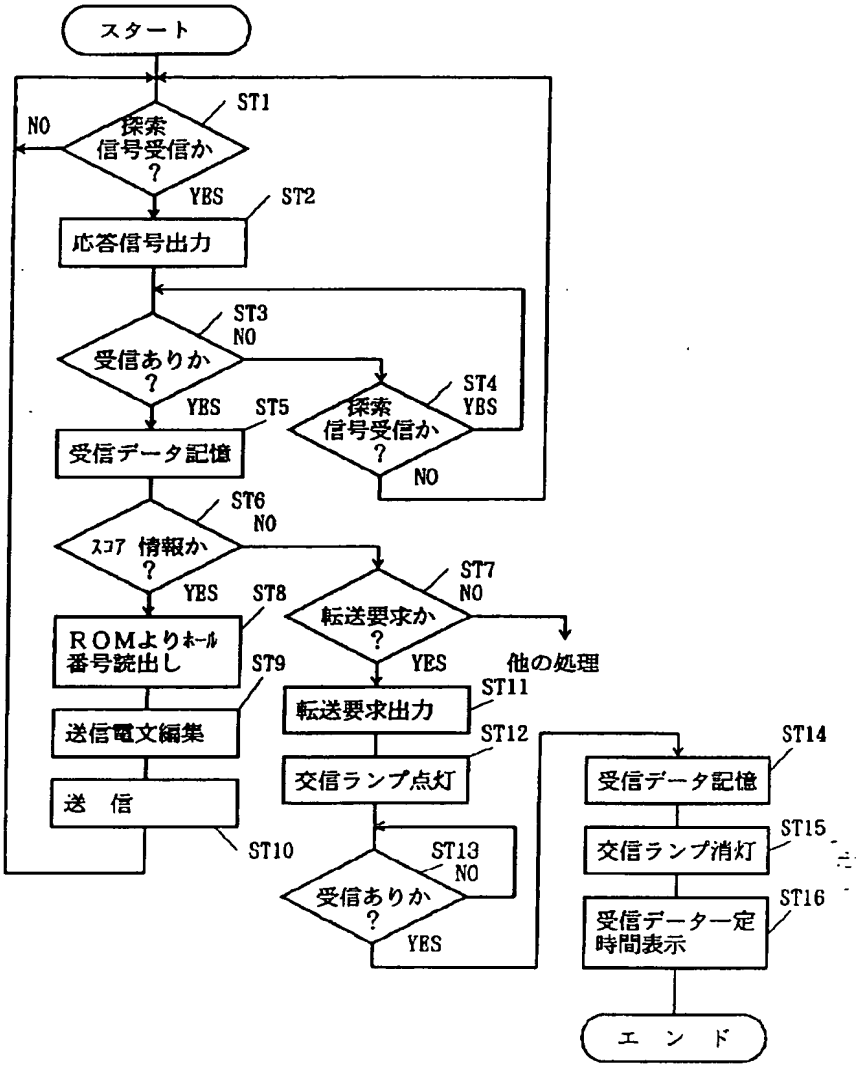
【図１９】


スタート
ST1
応答信号受信か？
NO
YES
ST2
警報ランプ点灯か？
YES
NO
ST3
警報ランプ点灯
ST4
カード挿入ありか？
NO
YES
ST7
カード情報記憶
4
ST5
警報ランプ点灯か？
NO
YES
ST6
警報ランプ消灯

【図２０】


4
5
ST8
キー操作ありか？
NO
YES
ST9
入力キーか？
NO
YES
ST14
F＝1？
YES
NO
ST15
入力データ 表表示
F→1
ST16
ST10
テンキーか？
NO
YES
ST17
F＝1？
NO
YES
5
置数データ →BUF
ST18
ST11
設定キーか？
NO
YES
ST19
置数データ ありか？
NO
YES
6
BUF →RAM
ST20
カーソル移動
ST21
ST13
転送要求キーか？
NO
YES
他の処理
端末装置へ転送要求出力
ST26
エ ン ド
ST12
終了キーか？
NO
YES
ST22
端末装置への送信データ編集
ST23
応答信号受信か？
NO
YES
ST24
送 信
ST25
クリヤ処理
エ ン ド

【図２１】


スタート
ST1
探索信号受信か？
NO
YES
ST2
応答信号出力
ST3
受信ありか？
NO
YES
ST4
探索信号受信か？
YES
NO
ST5
受信データ記憶
ST6
ｽｺｱ情報か？
NO
YES
ST7
転送要求か？
NO
YES
他の処理
ST8
ROMよりﾎｰﾙ番号読出し
ST9
送信電文編集
送　信
ST10
ST11
転送要求出力
ST12
交信ランプ点灯
ST13
受信ありか？
NO
YES
ST14
受信データ記憶
ST15
交信ランプ消灯
ST16
受信データ一定時間表示
エ　ン　ド

CLAIMS

[Claim(s)]

[Claim 1] Near Green, consist of the terminal unit installed in the arbitrary positions which reach the teeing ground of the next hole, and each terminal unit and the center equipment which can be communicated for every hole, and [each terminal unit] The input means for inputting a memory means to memorize the number of the installed hole, and a personal authentication code peculiar to each player and the score of each player, Have a transmitting means to transmit the number of the hole memorized by the personal authentication code of each player and score which were inputted from said input means, and said memory means to center equipment, and [said center equipment] A receiving means to receive the transmitting data from each terminal unit, and the memory means for accumulating and memorizing the score received by said receiving means for every player, The score management system in a golf course equipped with a total means to total the score for every player memorized by said memory means, and an output means to output the total result by said total means.

[Claim 2] Near Green, consist of the terminal unit installed in the arbitrary positions which reach the teeing ground of the next hole, and each terminal unit and the center equipment which can be communicated for every hole, and [each terminal unit] The input means for inputting a memory means to memorize the number of the installed hole, and a personal authentication code peculiar to each player and the score of each player, The transmission demand means for requiring transmission of the score information on other groups of center equipment, A transmitting means to transmit the personal authentication code of each player and score which were inputted from said input means, and the transmission demand from said transmission demand means to center equipment with the number of the hole alternatively memorized by said memory means, Have a receiving means to receive the transmission information from said center equipment, and an output means to output the score information on other groups which received by said receiving means, and [said center equipment] A receiving means to receive the transmitting data from each terminal unit, and a transmission demand, The memory means for accumulating and memorizing the score received by said receiving means for every player, a total means to total the score for every player memorized by said memory means, and an output means to output the total result by said total means, The score management system in a golf course equipped with a search means to retrieve the score information on the group which answers and corresponds to a transmission demand from each terminal unit, and a transmitting means to transmit the score information retrieved by said search means to the terminal unit of a transmission demand place.

[Claim 3] The mobile communications equipment which each group carries, and the terminal unit installed in the arbitrary positions to [from / near Green] the teeing ground of the next hole for every hole, Consist of each terminal unit and the center equipment which can be communicated, and [said mobile communications equipment] The input means for inputting a personal authentication code peculiar to each player, and the score of each player, Have a transmitting means to transmit the personal authentication code and score which were inputted from said input means to a terminal unit, and [each terminal unit] A memory means to memorize the number of the installed hole, and a receiving means to receive the transmitting data from the mobile communications equipment when said mobile communications equipment goes into a communication feasible region, Have a transmitting means to transmit the number of the hole memorized by said memory means, and the receiving data based on said receiving means to center equipment, and [said center equipment] A receiving means to receive the transmitting data from each terminal unit, and the memory means for accumulating and memorizing the score received by said receiving means for every player, The score management system in a golf course equipped with a total means to total the score for every player memorized by said memory means, and an output means to output the total result by said total means.

[Claim 4] The mobile communications equipment which each group carries, and the terminal unit installed in the arbitrary positions to [from / near Green] the teeing ground of the next hole for every hole, Consist of each terminal unit and the center equipment which can be communicated, and [said mobile communications

equipment'] The input means for inputting a personal authentication code peculiar to each player, and the score of each player, The transmission demand means for requiring transmission of the score information on other groups of center equipment, Have a transmitting means to choose the personal authentication code and score which were inputted from said input means, and the transmission demand from said transmission demand means, and to transmit to a terminal unit, and [each terminal unit] A memory means to memorize the number of the installed hole, when said mobile communications equipment goes into a communication feasible region, while receiving the transmitting data from the mobile communications equipment, or a transmission demand A transmitting means to transmit the number of the hole memorized by a receiving means to receive the transmission information from said center equipment, and the receiving data from the mobile communications equipment by said receiving means, or a transmission demand and a memory means to center equipment, A receiving means by which it has an output means to output the score information on other groups which received by said receiving means, and said center equipment receives the transmitting data from each terminal unit, and a transmission demand, The memory means for accumulating and memorizing the score received by said receiving means for every player, A total means to total the score for every player memorized by said memory means, An output means to output the total result by said total means, and a search means to retrieve the score information on the group which answers and corresponds to a transmission demand from each terminal unit, The score management system in a golf course equipped with a transmitting means to transmit the score information retrieved by said search means to the terminal unit of a transmission demand place.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the score management system in the golf course for concentrating and managing the score of two or more players.

[0002]

[Description of the Prior Art] When playing on a golf course now, each player needs to write the score for every hole in a scorecard, and needs to die. In order for ********** to total the last results of each player frequently in recent years in the game called a golf competition, after a sponsor collects scorecards from each player, a score is totaled by manual labor, and ranking is determined.

[0003] When it is the golf competition in which people participated especially in large numbers, this kind of total work requires extraordinary trouble and time, and a sponsor's work burden is serious. Then, make each group carry a small terminal unit, and each terminal unit and the center equipment which can be communicated are installed in a clubhouse the other day. The score of each player was made to transmit to center equipment for every hole from each terminal unit, and, on the other hand, a score management system which totals the score of each player which received automatically was proposed with center equipment.

[0004]

[Problem to be solved by the invention] However, on the occasion of each end back of a hole, it is necessary to input whether it is the score of what No. hole for inputting the score of each player from a terminal unit in this kind of score management system each time, and input operation is complicated.

[0005] And a terminal unit is only for transmitting a score to center equipment, a function is limited and there is a problem that service to a player is missing. In the golf competition, although especially each player was interested in the score of other groups, it was difficult to be unable to obtain the score information on other groups, but to fill the request of a player with the conventional golf management system.

[0006] This invention aims at offering the score management system in the golf course which was made paying attention to the above-mentioned problem, and does not have the necessity of inputting the number of a hole each time although the score of each player is inputted for every hole.

[0007] Moreover, this invention is the proper place of each hole, and aims at offering the score management system in the golf course which can be easily come to hand by the score information on other groups.

[0008]

[Means for solving problem] The score management system in a golf course is constituted by the terminal unit with which invention concerning Claim 1 is installed in the arbitrary positions to [from / near Green] the teeing ground of the next hole for every hole, and each terminal unit and the center equipment which can be communicated. An input means for each terminal unit to input a memory means to memorize the number of the installed hole, and a personal authentication code peculiar to each player and the score of each player, It has a transmitting means to transmit the number of the hole memorized by the personal authentication code of each player and score which were inputted from said input means, and said memory means to center equipment. A

receiving means by which said center equipment, on the other hand, receives the transmitting data from each terminal unit, It has the memory means for accumulating and memorizing the score received by said receiving means for every player, a total means to total the score for every player memorized by said memory means, and an output means to output the total result by said total means.

[0009] [system / concerning invention of Claim 2 / score management] An input means for each terminal unit to input a memory means to memorize the number of the installed hole, and a personal authentication code peculiar to each player and the score of each player, The transmission demand means for requiring transmission of the score information on other groups of center equipment, A transmitting means to transmit the personal authentication code of each player and score which were inputted from said input means, and the transmission demand from said transmission demand means to center equipment with the number of the hole alternatively memorized by said memory means, It has a receiving means to receive the transmission information from said center equipment, and an output means to output the score information on other groups which received by said receiving means. A receiving means by which said center equipment, on the other hand, receives the transmitting data from each terminal unit, and a transmission demand, The memory means for accumulating and memorizing the score received by said receiving means for every player, A total means to total the score for every player memorized by said memory means, It has an output means to output the total result by said total means, a search means to retrieve the score information on the group which answers and corresponds to a transmission demand from each terminal unit, and a transmitting means to transmit the score information retrieved by said search means to the terminal unit of a transmission demand place.

[0010] The score management system in a golf course is constituted by the mobile communications equipment with which each group carries invention concerning Claim 3, the terminal unit installed in the arbitrary positions tc [from / near Green] the teeing ground of the next hole for every hole, and each terminal unit and the center equipment which can be communicated. Said mobile communications equipment is equipped with the input means for inputting a personal authentication code peculiar to each player, and the score of each player, and a transmitting means to transmit the personal authentication code and score which were inputted from said input means to a terminal unit. Moreover, a memory means to memorize the number of the hole in which each terminal unit was installed, It has a transmitting means to transmit the receiving data based on a receiving means to receive the transmitting data from the mobile communications equipment when said mobile communications equipment goes into a communication feasible region, and the number and said receiving means of the hole memorized by said memory means to center equipment. A receiving means by which said center equipment, on the other hand, receives the transmitting data from each terminal unit, It has the memory means for accumulating and memorizing the score received by said receiving means for every player, a total means to total the score for every player memorized by said memory means, and an output means to output the total result by said total means.

[0011] [the score management system concerning invention of Claim 4] An input means for said mobile communications equipment to input a personal authentication code peculiar to each player, and the score of each player, It has a transmitting means to choose the personal authentication code and score which were inputted from the transmission demand means and said input means for requiring transmission of the score information on other groups of center equipment, and the transmission demand from said transmission demand means, and to transmit to a terminal unit. Moreover, [a terminal unit] a memory means to memorize the number of the installed hole, when each terminal unit goes [said mobile communications equipment] into a communication feasible region, while receiving the transmitting data from the mobile communications equipment, or a transmission demand A transmitting means to transmit the number of the hole memorized by a receiving means to receive the transmission information from center equipment, and the receiving data from the mobile communications equipment by said receiving means, or a transmission demand and a memory means to center equipment, It has an output means to output the score information on other groups which received by said receiving means. A receiving means by which said center equipment, on the other hand, receives the transmitting data from each terminal unit, and a transmission demand, The memory means for accumulating and memorizing the score received by said receiving means for every player, A total means to total the score for every player memorized by said memory means, It has an output means to output the total result by said total means, a search means to retrieve the score information on the group which answers and corresponds to a transmission demand from each terminal unit, and a transmitting means to transmit the score information retrieved by said search means to the terminal unit of a transmission demand place.

[0012]

[Function] In the score management system concerning this invention, each terminal unit is installed in the arbitrary positions which reach the teeing ground of the next hole near Green for every hole, and, moreover, [each terminal unit] Since the number of the installed hole is memorized, when inputting a score for every hole,

it is not necessary to input that information which is the score of what No. hole.

[0013] In the score management system concerning invention of Claim 2 or Claim 4, since transmission of the score information on other groups is required of center equipment and center equipment transmits the score information to the terminal unit of a demand place on the other hand, the score information on other groups can be checked in each installation position of a terminal unit.

[0014] [the score management system concerning invention of Claim 3] Since each terminal unit is installed in the arbitrary positions to [from / near Green] the teeing ground of the next hole for every hole and each group was made to carry each terminal unit and the mobile communications equipment which can be communicated When mobile communications equipment goes into the communication feasible region of a terminal unit, input operation of a score is possible at hand for being able to transmit a score to center equipment and not moving to it from mobile communications equipment, to the setting position of a terminal unit through a terminal unit.

[0015] Furthermore, since a transmission demand of the score information on other groups can be performed in mobile communications equipment in the score management system concerning invention of Claim 4, not only input operation of a score but transmission demand operation of score information is possible for not moving to the setting position of a terminal unit at hand.

[0016]

[Working example] Drawing 1 shows the outline composition of the score management system in the golf course concerning one example of this invention. As for CH, among this figure, a clubhouse and GR are the teeing grounds of the next hole, and, as for Green of a certain hole, and TG, the terminal unit 1 is installed near the teeing ground TG in the arbitrary position of a to [from said Green GR / a teeing ground TG], and this example.

[0017] [this terminal unit 1 / the position described above about No. 1 - the No. 8 hole, and No. 10 - a No. 17 hole] Moreover, it is installed in the arbitrary positions of a to [hole / a No. 9 hole and / No. 18 / from Green / the clubhouse CH near Green of the hole], respectively, and can communicate between each terminal unit 1 and the center equipment 2 formed in said clubhouse CH.

[0018] Said terminal unit 1 is arranged lengthwise along the way, and the card insertion slot 4, the display part 5, the keyboard 6, etc. are formed in the front operation side 3. It is for said card insertion slot's 4 inserting the score input card 7 shown in drawing 2 and drawing 3 , and sliding it on it, and the card reader is arranged in the internal proper place of this card insertion slot 4.

[0019] The player number c in the group given to the group code b which shows the organization code a which drawing 2 shows the surface of said score input card 7, and shows the organization which sponsors a golf competition, and the group to play, and each player, and the name d of each player are printed. As for the player of "1", in the case of the example of illustration, the player number c is set to "A-001-1" by the peculiar personal authentication code with which "001" and the player number c are ["A" and the group code b] "1" - "4", and the organization code a attests each player, for example. In addition, to the general group which does not belong to an organization, "0" is printed as an organization code a.

[0020] Drawing 3 shows the back of the above-mentioned score input card 7, and the band-like Information Storage Division part 8 on which predetermined information is recorded magnetically is formed along the length direction. Each information, including the organization code a, the above mentioned group code b, the above mentioned player number c, etc., is recorded on this Information Storage Division part 8.

[0021] This whole score management system composition and the circuit composition of center equipment 2 and each terminal unit 1 combine drawing 4 , and it is shown. RAM11 by which reading and writing of the ROM10 and data with which fixed data, such as a program and a number of a hole, are stored through Bath to CPU9 which is control subject including a microprocessor are presented with each terminal unit 1 is connected.

[0022] Said CPU9 carries out decipherment execution of the program of ROM10, and it controls input-and-output operation of each input/output device to a series through an input-and-output port, writing the data to RAM11. As said input/output device, the display part 5, a keyboard 6, a card reader 12, the transmission part 13, etc. are connected to said CPU9.

[0023] Said display part 5 has display devices, such as a liquid crystal and CRT, and is constituted, and keystroke data, the score information on other groups at the time of the golf competition which carries out a postscript, etc. are displayed on the screen. It is for a keyboard 6 inputting the score of each player etc., and the composition of the keyboard 6 is concretely shown in drawing 5 .

[0024] The overtype key 15, the arrow key 16, 17, the input key 18, the setting key 19, the end key 20, the transmission demand key 21, the communication lamp 22, etc. other than the ten key 14 which grows into this keyboard 6 from the numeric key of "0" - "9" are arranged.

[0025] When said overtype key 15 corrects keystroke data, the push operation of it is carried out. It is used for the arrow key 16 and 17 scrolling the display screen of said display part 5, or moving cursor. When the input key 18 inputs a score, the push operation of it is carried out, and the setting key 19 is used for a setup of the number

data of **. The push operation of the end key 20 is carried out at the time of the end of an input of a score etc. When requiring transmission of the score information on other groups of center equipment 2, the push operation of the transmission demand key 21 is carried out. The communication lamp 22 carries out lighting operation at th time of communication with center equipment 2.

[0026] Returning to drawing 4 , a card reader 12 is formed in the inside of said card insertion slot 4, and reads recorded information from the Information Storage Division part 8 of the score input card 7. The transmission parts 13 are transmission of the score information on center equipment 2, the output of a transmission demand, and a portion that receives the score information on other groups of center equipment 2 further.

[0027] Drawing 6 is a memory map in which the memory content of said RAM11 is shown, and has the card reading information storing field M1, the keystroke data storage field M2, the transmitting data-editing field M3, the receiving data storage field M4, the flag setting field M5, M6, etc.

[0028] The number data of ** with which the keystroke of the information read from the Information Storage Division part 8 of the score input card 7 was carried out to the keystroke data storage field M2 from the keyboard 12 again is stored in said card reading information storing field M1, respectively. In addition, it is for a buffer 30 memorizing keystroke data temporarily among a figure.

[0029] It is used for the transmitting data-editing field M3 editing the transmitted wording of a telegram for transmitting to center equipment 2 using the hole number memorized by keystroke data and ROM10. The receiving data storage field M4 stores the score information on other groups transmitted from center equipment 2. The flag setting field M5 and M6 are the fields for setting up a flag F1 and F2, and they mention each flag F1 and the meaning of F2 later.

[0030] ROM24, RAM25, and each input/output device connect with CPU23 which is the subject of control and an operation, and center equipment 2 [CPU23] Decipherment execution of the program of ROM24 is carried out, and input-and-output operation of each input/output device is controlled to a series through an input-and-output port, writing the data to RAM25. As said input/output device, a keyboard 26, the display part 27, the printing part 28, the transmission part 29, etc. are connected to said CPU23.

[0031] Said keyboard 26 displays the total result of a score etc., and the thing, and the display part 27 and the printing part 28 for inputting various kinds of data print it. It is for the transmission part's 29 receiving score information and a transmission demand from each terminal unit 1, or transmitting the score information on other groups to the terminal unit 2 of a transmission demand place.

[0032] Drawing 7 - drawing 9 show the control procedure by CPU9 of each terminal unit 1 at Step 1 ("ST1" shows among a figure) - Step 31. In Step 1 of drawing 7 , CPU9 has judged whether the score input card 7 was inserted in the card insertion slot 4, and if the judgment of "card input whereabouts ?" of Step 1 is "YES", it will judge at Step 2 whether it is under [with center equipment 2 / communication] ****** according to the contents of the flag F1.

[0033] If it is not [be / it] under communication, the judgment of "F1=1?" of Step 2 is "NO", and CPU9 stores in the card reading information storing field M1 of RAM11 the card reading information read by the card reader 12 at the following step 3.

[0034] Next CPU9 has judged the existence of key operation of a keyboard 6, and if the judgment is "YES", it will be judged whether which key was pressed at continuing Step 5-9. When the input key 18 is pressed, the judgment of Step 5 serves as "YES", it is the following step 10 and the input key 18 already judges whether it is finishing [a push operation] according to the contents of the flag F2. In this case, since that judgment is "NO", it progresses to Step 11, and CPU9 displays the input data table S of the format shown in drawing 10 on the display part 5 with reference to the card reading information in RAM11, and sets said flag F2 to "1" (Step 12).

[0035] The number of the hole where this terminal unit 1 is installed in the outside of the input data table S at the display screen of this figure, That is, the number, organization code, and group code of a hole which completed the play now are displayed, and the number and name of each player are displayed inside the input data table S, and cursor 31 is first located in the score entry column 32 of the 1st player.

[0036] Since the judgment of Step 6 serves as "YES" and said flag F2 is already ending with a set when the keystroke of the score of the 1st player is carried out to a ten key 14 next, the judgment of the following step 13 also serves as "YES", and the number data of ** is set to a buffer 30 (Step 14).

[0037] If the setting key 19 is pressed next, the judgment of Step 7 will serve as "YES". Moreover, since the number data of ** exists in a buffer 30, the judgment of the following step 15 also serves as "YES". CPU9 makes cursor 31 shift to the score entry column 32 of the 2nd player, after storing the number data of ** in a buffer 30 in the keystroke data storage field M2 of RAM16 (Step 16, 17).

[0038] If the end key 20 is pushed on the last after the keystroke of the score of the 2nd - each 4th player is carried out like the following The judgment of Step 8 serves as "YES" and progresses to Step 18 of drawing 8 . CPU9 reads a hole number from ROM10, and reads keystroke data from RAM11, respectively, and the transmitted

wording of a telegram of the format shown in drawing 11 using the transmitting data-editing field M3 of RAM11 is edited (Step 19). In this transmitted wording of a telegram, each data of a hole number, an organization code, a group code, each player number, a score, etc. is contained.

[0039] resetting said flag F2, after CPU9 transmits said transmitted wording of a telegram to center equipment 2 through the transmission part 13 at the following step 20 -- moreover, RAM11 -- each -- it carries out clear [of the contents of field M1-M3] (Step 21, 22). In addition, although not shown in a figure, when transmitted wording of a telegram is received in center equipment 2, of course, a response to that effect is sent to the terminal unit 1

[0040] After making the score input card 7 insert and slide to the card insertion slot 4 to know the score of other groups in the same organization as the next, the transmission demand key 21 of a keyboard 6 will be pressed. After the judgment of Step 9 serves as "YES" through Step 1-8 by this and CPU9 sets said flag F1 at Step 23 of drawing 9 , a transmission demand is outputted to center equipment 2 through the transmission part 13, and the communication lamp 22 is made to turn on (Step 24, 25). In this case, a hole number and an organization code are also collectively transmitted with a transmission demand.

[0041] [after this transmitting operation] if it is standing by from center equipment 2 to reception and the transmission part 13 receives receiving data from center equipment 2 The judgment of Step 26 serves as "YES", and CPU9 stores the receiving data in the receiving data storage field M4 of RAM11, and makes said communication lamp 22 switch off (Step 27, 28).

[0042] Drawing 12 shows the format of the transmitted wording of a telegram which center equipment 2 transmits. The play progress information about each player of all the groups belonging to the same organization is included in this transmitted wording of a telegram. In the play progress information on each player, each information, including a group code, a player name, the score of each hole, a handicap, the hole number play completed [last], etc., is included.

[0043] At the following step 29, CPU9 displays the play progress information about all the players on the display part 5 based on this receiving data, and the example of that display screen is shown in drawing 13 . Then, if the push operation of the end key 20 of a keyboard 6 is carried out, the judgment of Step 30 serves as "YES", and CPU9 erases this display, and it will carry out clear [of the contents of the receiving data storage field M4 of RAM11] while it resets said flag F1 at the following step 31. In addition, it is desirable to prepare for a failure of the end key 20 to push, and to constitute so that a display may be automatically erased after definite-period-of-time progress.

[0044] Drawing 14 shows the control procedure by CPU23 of center equipment 2. [have judged whether in Step 1 of this figure, it crawls CPU23 and there is a gap or reception from the terminal unit 1, and] if the judgment of Step 1 is "YES" It is judged whether the receiving data is score information in Step 3 which the receiving storage-of-data field m3 (shown in drawing 15) of RAM25 is made to memorize the receiving data, and continues at Step 2, and 4, and whether it is a transmission demand.

[0045] If it is score information, the judgment of Step 3 will serve as "YES", will progress to Step 5, and will write the score of each player in the field of the applicable hole of the score table storage area m1 of RAM25.

****** / CPU / CPU23 has judged whether this score information is the thing of a final hole, and] next if that judgment is "NO" It returns to Step 1 and stands by to the next reception, and if the judgment is "YES", it will progress to Step 7, the score about each player in the group will be totaled, and the total result will be written in the predetermined field of said score table storage area m1. It computes a gross value by a total here calculating the total value (net value) of the score of 18 holes, and subtracting a handicap from the total value.

[0046] [****** / CPU / CPU23 judges whether the aforementioned score information is the thing of the last group in an organization, and] next if the judgment of Step 8 is "NO" It returns to Step 1 and stands by to the next reception, and if the judgment is "YES", it will progress to Step 9, the score about the organization will be totaled, and the total result will be written in said score table storage area m1. Since all totals about each player of each group are completed in this stage, it is for a total here determining the ranking of results from the one where the gross value of a score is smaller. After finishing the total procedure, CPU23 displays a total result on the display part 27 at the following step 10, and the printing part 28 is made to print.

[0047] On the other hand, when receiving data is a transmission demand, the judgment of Step 4 serves as "YES". CPU23 reads score progress of each player of all the groups which search the score table storage area m1 of RAM25, and belong to the organization. After editing the transmitted wording of a telegram of the format shown in drawing 12 using the transmitting data-editing field m2, the transmitted wording of a telegram is transmitted to the terminal unit 1 of a transmission demand place from the transmission part 29 (Step 11, 12).

[0048] In addition, although it has the function which each terminal unit 1 of the above-mentioned example can input the score of each player, and can require and display transmission of the score information on other groups as shown in drawing 1 , the terminal unit 1a which has only a score input function near Green GR of the hole etc.

is installed. You may make it install the terminal unit (not shown) which combines a score input function and a transmission demand function near the teeing ground TG of the next hole etc., and has only the transmission demand function of the terminal unit 1 of the above-mentioned example, or score information.

[0049] Drawing 16 shows the outline composition of the score management system concerning other examples of this invention. Among this figure, it is the terminal unit with which one was installed near the next teeing ground, and center equipment with which 2 was prepared in Clubhouse CH, and said terminal unit 1 and the mobile communications equipment 34 which can be communicated are carried in the golf cart 33 of the group (group).

[0050] The same composition 4 as the 1st above mentioned example, i.e., a card insertion slot, the display part 5, and the keyboard 6 are formed in the operation side 3 of the front of said terminal unit 1. Moreover, as shown in drawing 17 , as for said mobile communications equipment 34, the card insertion slot 36, the keyboard 37, and the display part 38 have established the upper surface also in the operation side 35, and nothing and this operation side 35 as well as said terminal unit 1.

[0051] The score input operation about each player and transmission demand operation of the score information on other groups are possible for said terminal unit 1, and moreover it can display receiving data. On the other hand, the score input operation about each player and transmission demand operation of the score information on other groups are possible for the direction of mobile communications equipment 34. In addition, it is not necessarily necessary to constitute said terminal unit 1 so that transmission demand operation of score information may be possible.

[0052] [the keyboard 37 in said mobile communications equipment 34] The same composition 14 as the 1st example, i.e., the ten key which consists of the numeric key of "0" - "9", the overtype key 15, the arrow key 16, 17, the input key 18, the setting key 19, the end key 20, and the transmission demand key 21 are formed, and also the alarm lamp 36 is formed. This alarm lamp 39 is for switching on the light, when it goes into the field which can be communicated with the terminal unit 1 by mobile communications equipment 34, and urging input operation of a golf score.

[0053] The whole score management system composition of the 2nd example and each circuit composition of center equipment 2, each terminal unit 1, and mobile communications equipment 34 combine drawing 18 , and it is shown. The circuit composition of each terminal unit 1 and center equipment 2 is the same as that of the 1st example, and explanation is omitted by giving the same mark to the composition which corresponds here. In addition, center equipment 2 and long-distance partition ****** can be possible for the transmission part 13 of the terminal unit 1, and also mobile communications equipment 34 can communicate within the limits of [narrow] the circumference.

[0054] RAM42 by which reading and writing of the ROM41 and data with which a program and fixed data are stored through Bath to CPU40 which is a control subject including a microprocessor are presented with said mobile communications equipment 34 is connected.

[0055] Said CPU40 carries out decipherment execution of the program of ROM41, and it controls input-and-output operation of each input/output device to a series through an input-and-output port, writing the data to RAM42. As said input/output device, the display part 38, a keyboard 36, a card reader 43, the transmission part 44, the dispatch part 45, etc. are connected to said CPU40.

[0056] Said display part 38 has a liquid crystal display, and is constituted, and keystroke data is displayed on the screen. It is for a keyboard 36 inputting the score of each player etc., and the composition of a keyboard 36 is as having described above. A card reader 43 is arranged to the inside of said card insertion slot 36, and reads recorded information from the Information Storage Division part 8 of the score input card 7. The transmission part 44 transmits score information and a transmission demand to each terminal unit 1, and the dispatch part 45 always outputs a search signal to the limited range of the circumference of it.

[0057] Drawing 19 shows the control procedure by CPU40 of said mobile communications equipment 34 at Step 1 - Step 26. CPU40 judges first whether the reply signal was received from the terminal unit 1 of the hole at Step 1. This reply signal is what is outputted by carrying out definite-period-of-time continuation when the terminal unit 1 receives a search signal from mobile communications equipment 34. [judge whether next the alarm lamp 29 of a keyboard 37 has turned on CPU40, and] if the judgment is "NO" when the judgment of Step 1 is "YES" The alarm lamp 29 is made to turn on at Step 3, and if the judgment is "YES", Step 3 will be skipped and it will stand by to the input of card recorded information at the following step 4.

[0058] It judges whether if the judgment of Step 1 of "whether to be reply signal reception" is "NO", it would progress to Step 5 and the alarm lamp 29 will be on, and if the judgment is "NO", it will return to Step 1 and will stand by to reception of a reply signal. When it comes out from the field once mobile communications equipment 34 went into the terminal unit 1 and the communication feasible region when the judgment of Step 5 is "YES" namely, the alarm lamp 29 is switched off at Step 6, and it stands by to reception of the reply signal of Step 1.

[0059] If the score input card 7 is inserted in the card insertion slot 36 next and card recorded information is

inputted, the judgment of Step 4 serves as "YES" and CPU40 stores the card reading information by a card reader 12 in the card reading information storing field (not shown) of RAM42 (Step 7).

[0060] Next, at Step 8 of drawing 20 , CPU40 has judged the existence of the key operation in a keyboard 37, and if the judgment is "YES", it will be judged whether which key was pressed at continuing Step 9-13. When the input key 18 is pressed, after the judgment of Step 5 serves as "YES" and checks the contents of the operated flag F of an input key at the following step 14, the format of an input data table is displayed on the display part 38, and said flag F is set to "1" (Step 15, 16).

[0061] If the keystroke of the score of the 1st player is carried out to a ten key 14 next, the judgment of Step 10 serves as "YES", and CPU40 will check that said flag F is ending with a set at Step 17, and will set the number data of ** to a buffer (Step 18).

[0062] If the setting key 19 is pressed next, the judgment of Step 11 will serve as "YES". Moreover, CPU40 makes cursor shift to the score entry column of the 2nd player, since the judgment of "number data whereabouts of ** ?" of Step 15 is also "YES", after storing the number data of ** in a buffer in the keystroke data storage field of RAM42 (Step 20, 21).

[0063] If the end key 20 is pushed on the last after the keystroke of the score of the 2nd - each 4th player is carried out like the following, the judgment of Step 12 will serve as "YES", and will progress to Step 23, and, as for CPU40, the transmitted wording of a telegram to the terminal unit 1 will be edited (Step 22). It is that by which each data of an organization code, a group code, each player number, a score, etc. is contained in this transmitted wording of a telegram. After CPU40 checks that a reply signal is under reception from the terminal unit 1 at the following step 23, it transmits transmitted wording of a telegram to the terminal unit 1 through the transmission part 44 at Step 24, and carries out clear [of the contents of RAM42] at the following step 25. In addition, when not having received the reply signal when transmitting wording of a telegram, Step 23 is "NO" and clear processing is carried out at Step 25.

[0064] After making the score input card 7 insert and slide to the card insertion slot 36 to know the score of other groups belonging to the same organization as the next, the transmission demand key 21 of a keyboard 37 will be pressed. The judgment of Step 13 serves as "YES" through Step 1-12 by this, and CPU40 outputs a transmission demand from the transmission part 44 to the terminal unit 1 at Step 26 (Step 26). In this case, an organization code is also collectively transmitted with a transmission demand.

[0065] Drawing 21 shows the control procedure by CPU9 of the terminal unit 1 at Step 1-16. [****** / Step 1 of this figure / CPU / CPU9 has judged whether the search signal was received from mobile communications equipment 34, and] if the judgment is "YES" A reply signal is outputted to mobile communications equipment 34 through the transmission part 13 at Step 2, and it stands by from mobile communications equipment 34 to reception, checking having continued the search signal and having received at Step 4, (Step 3).

[0066] When either score information or a transmission demand is received from mobile communications equipment 34 next, [the receiving data is stored in the receiving data storage field of RAM11 (Step 5), and] if it is score information The judgment of Step 6 is "YES" and CPU9 from ROM10 at Step 8 [a hole number] From RAM11, after reading receiving data, respectively and editing transmitted wording of a telegram using the transmitting data-editing field of RAM10, the transmitted wording of a telegram is transmitted to center equipment 2 through the transmission part 13 (Step 9, 10).

[0067] If receiving data is a transmission demand, the judgment of Step 7 will be "YES", CPU9 will output a transmission demand to center equipment 2, and the communication lamp 22 will be made to turn on (Step 11, 12). In this case, of course, a hole number and an organization code are also collectively transmitted with a transmission demand.

[0068] [after this transmitting operation] if it is standing by from center equipment 2 to reception and the transmission part 13 receives receiving data from center equipment 2 The judgment of Step 13 serves as "YES" and CPU9 stores the receiving data in the receiving data storage field of RAM11. After making said communication lamp 22 switch off, based on said receiving data, the play progress information about all the players is indicated by a definite period of time at the display part 5 (Step 14-16).

[0069] In addition, the control procedure by CPU23 of center equipment 2 is the same as that of the 1st example, and omits explanation here. Moreover, when performing the input and transmission demand of a score using the terminal unit 1, it is also the same as that of the 1st example, and the explanation is omitted similarly. In addition, though the transmission information from center equipment 2 is displayed in the terminal unit 1 in the 2nd above-mentioned example, it is possible to transmit this transmission information to mobile communications equipment 34, and to also make it display on the display part 38 of mobile communications equipment 34.

[0070]

[Effect of the Invention] This invention installs a terminal unit in the arbitrary positions to [for every hole / tom / near Green] the teeing ground of the next hole like the above. Since the number of a hole is stored in

each terminal unit and it was made to transmit to center equipment with score input data, it is not necessary to input that information which is the score of what No. hole, and input operation can be simplified.

[0071] Moreover, in invention of Claim 2 or Claim 4, require transmission of the score information on other group of center equipment, and, on the other hand, center equipment transmits the score information to the terminal unit of a demand place. Since it was made to make the contents output to the output part of a terminal unit, in each installation position of a terminal unit, the score information on other groups can be checked easily.

[0072] Furthermore, in invention of Claim 3, a terminal unit is installed in the arbitrary positions to [from / near Green] the teeing ground of the next hole for every hole. Moreover, since each group was made to carry each terminal unit and the mobile communications equipment which can be communicated, when mobile communications equipment goes into the communication feasible region of a terminal unit, Input operation of a score is possible at hand for being able to transmit a score to center equipment and not moving to it from mobile communications equipment, to the setting position of a terminal unit through a terminal unit.

[0073] Furthermore, by invention of Claim 4, since it enabled it to perform a transmission demand of the score information on other groups in mobile communications equipment, a prominent effect [say / that not only input operation of a score but transmission demand operation of score information is possible] is done so by a hand again, without moving to the setting position of a terminal unit.

[Translation done.]